

## Thyroid Nodules and Thyroid Cancer

THE PROPER MANAGEMENT of thyroid nodules is still a hotly-debated issue. Single thyroid nodules occur in an estimated 2 to 4 percent of people living in non-endemic goiter areas in the United States. Some percentage of people with thyroid nodules will have thyroid cancer, the proportion being highest with the so-called "cold" nodules which accumulate radioiodine poorly compared to the paranodular tissue. This seems reasonable since most thyroid malignancies do not efficiently concentrate iodine or synthesize thyroid hormones. However, the problem remains that in a population of 1 million, between 20,000 and 40,000 people will have single thyroid nodules, of which approximately half are "cold" on scanning. Yet there will be only five deaths per year from thyroid cancer in this same population.<sup>1</sup> Routine removal of all thyroid nodules as a prophylactic measure thus seems unreasonable since the expected morbidity and mortality from the thyroid operation, not to mention the expense, would be greater than the expected ravages of untreated thyroid cancer itself. But therapeutic nihilism also seems unwarranted since "prophylactic" operation in patients with the highest risk of thyroid cancer should have much better odds. Clearly, the issue at hand is how best to identify the subpopulation at highest risk.

In the current issue of this journal, Greenspan has outlined his method for choosing high-risk patients. This consists of an initial screening from the history, physical examination and scan, with immediate surgical operation for those with highly suspicious thyroid enlargement. Operations in other patients are reserved for those whose thyroid enlargement does not regress with suppressive doses of thyroxine. Thirty percent of the patients operated on had thyroid cancer, making it 9.5 percent of his total study group with thyroid malignancy. His report suggests that thyroid cancer is several hundred times more common in patients with nodular goiter than epidemiologic data indicate.

Unfortunately, there are several important questions which are not answered by Greenspan's study. Perhaps the most important is the relation of the histologic diagnosis to biologic behavior of the lesions, particularly in the papillary and fol-

licular carcinomas. There is considerable disagreement on the criteria to be used for making a diagnosis of thyroid malignancy. Even the same expert pathologist has been known to give different opinions on viewing the same histologic section at different times. The overwhelming majority of people with papillary or follicular thyroid carcinoma do not have further morbidity from their disease once it has been diagnosed. Those who die from thyroid cancer have almost invariably been operated on previously. Many do not have single thyroid nodules when first seen. Of those patients with goiter or single thyroid nodules who are not operated on, how many go to their grave harboring histologically malignant, yet biologically benign, thyroid cancers? According to an autopsy study at the Mayo Clinic,<sup>2</sup> 4 percent of patients without clinical evidence of thyroid disease who died from other causes had histologic thyroid cancer. This was approximately the same incidence as in their surgically treated patients with clinically palpable thyroid nodules. Thus, while Greenspan's method for selecting surgical cases apparently increases the yield of histologic cancer, it is not clear that it identifies those patients with high biologic risk.

What is the evidence that patients treated with surgical excision of thyroid carcinoma fare better than those not so treated? Controlled studies which might provide the answer to this question do not exist. However, Vander et al followed 218 unselected patients with non-toxic single thyroid nodules for 15 years.<sup>3</sup> None developed clinically evident thyroid cancer. Slight as they are, the risks from thyroid surgery may be greater than the risks from thyroid cancer, even in patients selected by Greenspan's criteria.

Our own plan of selection at the University of Oregon Medical School is somewhat different.<sup>4</sup> Our experience has not been quite as favorable as Greenspan's in the number of patients with multinodular goiter or single nodules whose lumps regress with thyroid hormone therapy. We therefore recommend excision only in those patients whose thyroids are very suspicious of malignancy when we first see them or those in whom the thyroid enlargement progresses in spite of the patient's receiving adequate suppressive doses of thyroid hormone. Since approximately 50 percent of all nodules are "cold," this information from the scan is not important in our initial decision. If the enlarged tissue stays the same size without regressing, we do not recommend operation except for cos-

metic reasons. This considerably reduces the percentage of patients operated on compared with Greenspan's series, but apparently works just as well in screening for thyroid cancer. We have used this approach for over 25 years. None of our non-operated patients has developed biologic malignancy to my knowledge.

MONTE A. GREER, MD

*Professor of Medicine  
Head, Division of Endocrinology  
University of Oregon Medical School  
Portland*

#### REFERENCES

1. Silverberg E, Holleb AI: Cancer statistics 1971. *Cancer* 21: 13, 1971
2. Mortensen JD, Woolner LB, Bennett WA: Gross and microscopic findings in clinically normal thyroid glands. *J Clin Endocr* 15:1270-1280, 1955
3. Vander JB, Gaston EA, Dawber TR: The significance of non-toxic thyroid nodules. *Ann Intern Med* 69:537-540, 1968
4. Greer MA: Thyroid nodules—Surgery is usually not necessary. In Ingelfinger FJ, Ebert RJ, Finland M, et al (Eds): *Controversy in Internal Medicine II*. Philadelphia, WB Saunders, 1974, pp 428-434

## Patient Care Audit

PEER REVIEW ACTIVITIES in California and elsewhere have begun to focus on the patient care audit. Indeed the California Medical Association and the California Hospital Association have joined in a massive effort to introduce patient care audit into virtually every hospital in California. The model is similar to that developed by Clement Brown. This is being accomplished by training interdisciplinary teams from each hospital in the audit process by holding a series of workshops, following which each team returns to its own hospital and brings the message of medical audit to the medical staff and to the hospital administration.

The patient care or medical audit, as it is sometimes now called, is a first attempt on a major scale by the private sector to assess objectively the quality of patient care actually rendered in a practice setting, the hospital. It has already produced some substantial benefits. At the very least, it has convinced physicians on the medical staffs of hospitals, and hospital administrators who are trying to maintain quality and balance the hospital budgets, that an assessment of the quality of the care being rendered in the institution is both important and useful.

The genius of the technique being used, which makes it acceptable to the professionals concerned and gets results, is that the criteria are chosen and

the compliance performance required are determined by the medical staff and other professionals whose performance is to be assessed. This clearly focuses on the local situation, challenges those most directly involved, and even respects the doctor-patient relationship. Contrary to what some might have expected, experience has shown that these self-imposed standards tend to be high, and when they are not met, this becomes a matter of professional concern and effective corrective action is usually taken.

It is proper and as it should be that medicine assess its own professional performance and be accountable to the public. There has always been some form of peer accountability in the tradition of medicine. This should and will continue, with or without government mandate. In fact no one else can really do it. Public accountability is also not new. It was a part of the Code of Hammurabi, and it is just as real a concern today, although perhaps not quite so brutal. The report elsewhere in this issue by Barbour, Lambert and Fisher reflects a step forward in the direction of public accountability in patient care which is so necessary for American medicine in these times.

—MSMW

## The Fascinations and Frustrations of Diabetes Mellitus

ONE HUNDRED YEARS AGO, Bouchardat, professor of public health in Paris, published a compilation of his observations on diabetes extending over a 35-year period. In this book he subdivided the diabetic state in man into (a) the severe "pancreatic" type; (b) the "fat" diabetes of moderate glycosuria, associated with overweight and hyperuricemia and (c) the "nervous" diabetes which did not fit the first two classifications.

He pointed out that the pancreatic form led to rapid weight loss, cachexia and death. No effective therapy was known. However, for the obese, moderate group of diabetics he recommended and successfully used a regimen consisting of a diet low in calories and in soluble carbohydrates, coupled with a strict and consistent schedule of physical exercise. Most patients who adhered to this regime lived long and useful lives.

Let us examine what changes have occurred